FloodSAFE focus

A publication of the Department of Water Resources FloodSAFE California initiative

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Joint Federal Project Begins New Spillway Construction at Folsom Dam

The greater Sacramento area's one million residents may soon benefit from a reduced risk of flooding. A joint project to modify Folsom Dam reached a major milestone last month, when the Bureau of Reclamation (Reclamation) handed reins to the U.S. Army Corps of Engineers (USACE) to begin constructing a new 4,200-foot auxiliary spillway.

The work is part of a more than $1 billion effort led by the USACE and Reclamation to enhance Folsom Dam's ability to handle flood flows and improve dam safety. In addition to the spillway, the joint project's other main component is a new control structure; together, these modifications will allow dam operators to release water from Folsom Reservoir sooner and more quickly to make room for runoff from the upstream watershed when a flood event is possible. Because operators will be able to release water from the reservoir faster, the dam and reservoir will be able to manage the inflow from at least a 200-year storm. The dam and reservoir are located approximately 25 miles east of Sacramento.

Reclamation oversaw excavation of the spillway channel, which took 18 months and concluded in mid-January $70 million under budget. The USACE will complete the project's final phases, overseeing construction of the new spillway, a concrete control structure with six submerged steel gates, a 1,100-foot-long approach channel connecting the new spillway to the reservoir, and other features expected to take four years in total to build.

Thus far, the project's non-federal cost-share has included nearly $50 million in funding from the statewide Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). In addition, the Sacramento Area Flood Control Agency (SAFCA) contributed funding raised through a local property assessment. The bond funds are administered by the California Department of Water Resources (DWR) Early Implementation Program, which funds existing or construction-ready federal and local projects that improve or may become part of the State Plan of Flood Control.

Photo Credit: USACE, Sacramento District (1)

Photo Credit: USACE, Sacramento District (2)

Photo captions from top: *(1) Construction of Folsom Dam's new auxiliary spillway. (2) An artist's rendering of the new auxiliary spillway and approach channel after the joint federal project is complete. To its right, a portion of the dam's existing spillway can be seen along the edge of the reservoir.*

Additional information on the project and its progress is available on the Web from the USACE, Sacramento District: *http://www.spk.usace.army.mil/*; Reclamation, Mid-Pacific Region: *http://www.usbr.gov/mp/*; and SAFCA: *http://www.safca.org/*.

In This Issue:

Vision:

A sustainable integrated flood management and emergency response system throughout California that improves public safety, protects and enhances environmental and cultural resources, and supports economic growth by reducing the probability of destructive floods, promoting beneficial floodplain processes, and lowering the damages caused by flooding.

FloodSAFE CALIFORNIA

Comments Requested on Draft Local Levee Assistance Program Guidelines for Prop. 84 Funds

The Local Levee Assistance Program awards bond funds from Proposition 84 (Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006) to local flood agencies for critical levee repairs and levee evaluations in areas outside the State Plan of Flood Control and the Delta. Three public workshops and one web presentation to review the draft program guidelines are scheduled for March (see "Calendar," page 3). To RSVP for the March 15 web presentation, please e-mail K.C. Richmond at *richmond@water.ca.gov.* Written comments are due by 5 p.m. on March 18, 2011, to David Wright, 3310 El Camino Avenue, Suite 140, Sacramento, CA 95821. A PDF of draft guidelines is available at *http://www.water.ca.gov/floodsafe/docs/LLAP_Guidelines_2011.pdf.*

Fish Ladder Completed in Time for Spring Spawning

Completed in December 2010, the Marsh Creek fish ladder enables Chinook salmon, steelhead, and other fish to migrate past the Marsh Creek flood control drop structure near the towns of Brentwood and Oakley, thus allowing access to an additional 7 miles of creek that provide better habitat for spawning and improved survival of salmon fry and smolts further upstream.

DWR was a key partner in the project, providing conceptual drawings, topographical surveys, and technical support through the Fish Passage Improvement Program, as well as funding for the ladder's construction through the Urban Streams Restoration Program. Led by the Friends of Marsh Creek, more than 10 additional public and private organizations worked together to implement the project, including Contra Costa Flood Control District and the Natural Heritage Institute.

The Marsh Creek drop structure before (1) and after (2) fish ladder construction. Before the ladder was installed, migrating salmon were unable to pass the drop structure since it was constructed in 1958 to protect area farms from erosion and flooding caused by the creek's flows. Slats (3) separate twelve progressive pools the fish will swim through as they make their way up and around the drop structure to reach better spawning habitat upstream in Marsh Creek, a tributary of the San Joaquin River.


(1)


(2)


(3)

The Central Valley Flood Protection Plan Progress Report, which describes work completed to date to develop the 2012 plan, is now available as a PDF for download at *http://www.water.ca.gov/cvfmp/documents.cfm/.*

Critical Erosion Damage Addressed Along San Juan Creek

Five million dollars of state-awarded taxpayer funds have helped Orange County achieve significant progress in its plan to reduce flood risk along San Juan Creek.

In late 2009, DWR's Local Levee Assistance Program awarded $5 million to Orange County for urgent repairs to the San Juan Creek levee (See related article on the program, page 2). Full funding was delivered in October 2010, after completion of the first phase of the San Juan Creek Plan. The state's contributions brought the total cost to Orange County for this phase of the project down to $6.9 million from $11.9 million, a considerable savings to the community. The county plans to direct the savings toward continuing future phases of the plan.

San Juan Creek is the primary tributary in a 176-square-mile watershed located in the southeast region of Orange County that includes portions of the cities of Dana Point, Laguna Hills, Laguna Niguel, Mission Viejo, Rancho Santa Margarita, and San Juan Capistrano.

Over the years, frequent high-water events caused significant erosion damage to some of San Juan Creek's flood management features, the levee slopes became severely destabilized and incapable of passing flows as designed, and one portion of the levee washed out entirely during flooding in 1997. San Juan Creek levee, originally constructed in 1963, extends along the creek's west side from Pacific Coast Highway to Interstate 5.

Before the urgent repairs, this segment of the channel had undergone several improvements and repairs, including increasing the embankment height. Construction of the first phase of the San Juan Creek Plan included sonic drilling and placing a steel sheet pile wall to protect against erosion. The remaining phases will be constructed in the next few years, and the total project cost is estimated to be approximately $91 million for all eight channel phases.

For more information about the Local Levee Assistance Program, contact David Wright at *dwright@water.ca.gov.*

San Juan Creek's repaired levee also provides expanded recreational opportunities, such as the bike path shown above.

2011 Calendar

***March 1** – Prop. 1E Stormwater Flood Management Grant (Round 1) Applicant Workshop, 9 a.m., Sacramento*

***March 2** – Prop. 1E Stormwater Flood Management Grant (Round 1) Applicant Workshop, 1 p.m., Oakland*

***March 3** – Prop. 1E Stormwater Flood Management Grant (Round 1) Applicant Workshop, 1 p.m., Alhambra*

***March 8 –** Local Levee Assistance Program Draft Guidelines Workshop, 1 p.m., Redding*

***March 9 –** Local Levee Assistance Program Draft Guidelines Workshop, 1 p.m., Oakland*

***March 11 –** Local Levee Assistance Program Draft Guidelines Workshop, 1 p.m., Riverside*

***March 15 –** Local Levee Assistance Program Draft Guidelines Web Presentation, 10 a.m.*

http://water.ca.gov/calendar

The **incident command system (ICS)** is a standardized structure and set of procedures for coordinating the emergency response efforts of local, state, and federal agencies. First developed in California in the 1970s to improve wildfire management, ICS is now the basis for state and federal emergency management of floods, fires, and other events.

State and Federal Forecasters Work Side by Side to Monitor Flow Levels and Alert Flood Response

Since the 1950s, a team of state and federal specialists has monitored water levels in California's streams, rivers, and reservoirs daily. Throughout the flood season (October through April), the five-day forecasts they provide are updated twice daily and used to alert DWR's Flood Operations Center when flows are expected to exceed a flood or danger level so that flood response coordination efforts can begin. During high-water events, most recently during December 2010, the forecasters move to 24-hour operations, updating forecasts every six hours. This partnership between DWR and the National Weather Service is one of only 13 such river forecast centers nationally.

Lower San Joaquin River Feasibility Study Underway

Still in its early stages, the Lower San Joaquin River Feasibility Study is an effort to determine flood system improvements necessary to protect metropolitan areas along the San Joaquin River and its floodplains, extending from Manteca to just north of Stockton. The study is addressing the increasing flood problems in the region and improving nearly 140 miles of levees, with the goal of reaching or exceeding the 200-year level of flood protection for urban or urbanizing areas mandated by Senate Bill 5 (2007). The study team is examining a variety of measures to reduce flood-related damages and increase flood conveyance while also identifying compatible opportunities for ecosystem restoration floodplains and channels. Study partners include the U.S. Army Corps of Engineers, the Central Valley Flood Protection Board, and the San Joaquin Area Flood Control Agency.

Emergency Response Training Helps DWR Prepare for Flood Events Statewide

As California's lead flood management agency, DWR is responsible for responding to flood emergencies statewide, including flash floods, high-water events, and levee failures. All DWR employees must be trained in the state's standardized incident command system, a structure and set of procedures for coordinating emergency response and management that is used by state, federal, and local jurisdictions. Only certain DWR staff members are designated as "first responders." As an emergency develops, DWR deploys first responders to assess the situation and determine whether it requires engaging the state's Flood Operations Center and incident command teams to coordinate response efforts on site with local responders.

DWR staff receive emergency response training in Sacramento and, as needed, regionally.

A periodic newsletter highlighting the progress to produce the 2012 Central Valley Flood Protection Plan and the related FloodSAFE efforts within the California Department of Water Resources

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